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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/702,185	10/30/2000	Shirley Lee	10982031-1	1662

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 08/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/702,185	LEE ET AL.	
	Examiner	Art Unit	
	Callie E. Shosho	1714	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 April 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17, 21-27, 30, 32 and 34-57 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 and 34-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17, 21-27, 30, 32 and 50-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

1. All outstanding rejections except for those described below are overcome by applicants' amendment filed 4/25/02. The new grounds of rejection as set forth in paragraphs 8-9 below are necessitated by applicants' amendment and thus, the following action is final.

**Election/Restrictions**

2. Applicant's election of Group II, claims 17-33 in Paper No. 8 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

3. Claims 1-16 and 34-49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 8.

4. It is noted that claims 50-57, added by amendment filed 4/25/02, have been joined with elected Group II.

**Claim Rejections - 35 USC § 102**

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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6. Claims 17, 21-27, 30, 32, and 50-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Kabalnov (U.S. 6,261,350) taken in view of the evidence given in Prasad (U.S. 5,196,056).

The rejection is adequately set forth in paragraph 13 of the office action mailed 2/19/02, Paper No. 7, and is incorporated here by reference.

**Claim Rejections - 35 USC § 103**

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 17, 21-27, 29, 32, 50-55, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurabayashi et al. (U.S. 5,700,314) or Takahashi et al. (U.S. 5,624,484) either of which in view of in view of Watanabe et al. (U.S. 6,080,229) and either Zhu (U.S. 5,889,083) or EP 735120.

Kurabayashi et al. disclose an ink composition comprising anionic dye that is printed on a medium over an underprinted fixer fluid, i.e. liquid composition, comprising cationic compound. The anionic dye includes those with sulfonated or carboxylate groups. The cationic compounds quaternary ammonium salt type compounds. It is further discloses that the ink also contains low molecular weight hydrophilic compounds including lower alcohols (col.5, lines 9-26 and 33-34, col.7, lines 30-45, col.8, lines 47-49, col.9, lines 59-64).

Although there is no explicit disclosure that the printed ink and fixer fluid together form an amorphous, viscous fluid with viscosity greater than the ink, given that Kurabayashi et al.

disclose ink and fixer fluid identical to that presently claimed including anionic dye and cationic component which will react or associate with each other, it is clear that the mixture of ink and fixer fluid will inherently produce an amorphous, viscous fluid with viscosity as presently claimed.

Alternatively, Takahashi et al. disclose an ink composition comprising anionic dye that is printed on a medium over an underprinted fixer fluid, i.e. liquid composition, comprising cationic compound. The anionic dye includes those with carboxylate groups. The cationic compounds quaternary ammonium salt type compounds. It is further discloses that the ink also contains low molecular weight hydrophilic compounds including lower alcohols (col.3, lines 62-67, col.5, line 67, col.8, lines 21-28 and 44-45, and col.11, lines 55-65).

Col.4, lines 19-25 of Takahashi et al. disclose that upon reaction between the anionic dye in the ink and the cationic component in the fixer fluid, the viscosity increases. Although there is no explicit disclosure that the printed ink and fixer fluid together form an amorphous, viscous fluid with viscosity greater than the ink, given that Takahashi et al. disclose ink and fixer fluid identical to that presently claimed, it is clear that the mixture of ink and fixer fluid will inherently produce an amorphous, viscous fluid with viscosity as presently claimed.

The difference between Kurabayashi et al. or Takahashi et al. and the present claimed invention is the requirement in the claims of (a) anionic binder and (b) cations.

With respect to difference (a), Zhu, which is drawn to ink jet inks, disclose the use of hydrolyzed styrene-maleic anhydride binder in order to fix the colorant to substrate as well as to impart abrasion resistance to the ink (col.4, lines 47-54 and col.6, lines 5-9).

Alternatively, EP 735120, which is drawn to ink jet inks, disclose the use of hydrolyzed styrene-maleic anhydride binder in order to provide good adhesion of the ink to substrate (page 2, lines 47-49 and 49-53 and page 3, lines 24-28).

With respect to difference (b), Watanabe et al., which is drawn to ink jet ink and fixer fluid, disclose the use of polyvalent metal salt which provides cations such as calcium, aluminum, barium, and magnesium to the fixer fluid as presently claimed (col.3, lines 36-46) wherein the motivation for using such salts is that the salts react with the colorant present in the ink in order to prevent bleeding and produce an image with high color density and free from feathering (col.2, line 57-col.3, line 5).

In light of the motivation for using hydrolyzed styrene-maleic anhydride binder disclosed by either Zhu or EP 735120 and for using polyvalent metal salts disclosed by Watanabe et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such binder in the ink of either Kurabayashi et al. or Takahashi et al. in order to produce an ink which has good adhesion of colorant to substrate and abrasion resistance, or alternatively, good adhesion of ink to substrate, and to use such salt in the fixer fluid of either Kurabayashi et al. or Takahashi et al. in order to produce fixer fluids which prevent bleeding and produce an image with high color density and free from feathering, and thereby arrive at the claimed invention.

9. Claims 30 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurabayashi et al. or Takahashi et al. either of which in view of Watanabe et al. and either Zhu or EP 735120 as applied to claims 17, 21-27, 29, 32, 50-55, and 57 above, and further in view of Yatake (U.S. 6,004,389).

The difference between Kurabayashi et al. or Takahashi et al. either of which in view of Watanabe et al. and either Zhu or EP 735120 and the present claimed invention is the requirement in the claims of cationic polymer which comprises branched polymer chains.

Yatake et al., which is drawn to ink jet ink composition and fixer fluid, disclose the use of polyethyleneimine, an intrinsically branched cationic polymer, in the fixer fluid composition wherein the polyethyleneimine reacts with the colorant in the ink composition in order to prevent bleed of the ink (col.1, line 13 and col.16, lines 40-43 and 48). Additionally, Yatake et al. disclose the equivalence and interchangeability of polyallylamine, as disclosed by either Kurabayashi et al. (col.6, line 22) or Takahashi et al. (col.4, line 22) with polyethyleneimine as the cationic compound in the fixer fluid.

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use cationic polymer which comprises branched polymer chains, i.e. polyethyleneimine, in the fixer fluid of either Kurabayashi et al. or Takahashi et al. in order to produce a fixer fluid which prevents ink bleed, and thereby arrive at the claimed invention.

#### **Response to Arguments**

10. Applicants arguments' filed 4/25/02 regarding Ono et al. (U.S. 6,299,675) have been considered but they are moot in view of the discontinuation of this reference as applied against the present claims.

11. Applicants' arguments filed 4/25/02 have been considered but with the exception of arguments relating to Ono et al., they are not persuasive.

Specifically, applicants argue that:

- (a) Kabalnov is not prior art under 35 USC 102(e).
- (b) Kurabayashi et al. and Takahashi et al. do not teach the presently claimed invention.

With respect to argument (a), applicants argue that although the Kabalnov patent was conceived by a different inventive entity than the present application, the Kabalnov patent is not to "another" as required by 35 USC 102(e). As evidence to support their position, applicants cite *In re Land*, 151 USPQ 621, 386 F.2d 866, 879 (CCPA 1966).

According to MPEP 2163.05, a 35 USC 102(e) rejection can be overcome by showing that the reference is describing applicants' own work. This portion of the MPEP describes the situation where one application is first filed by inventor X and then a later application is filed by X+Y. In this situation, in order to overcome 35 USC 102(e) rejection, MPEP 2163.05 states that it must be shown that the joint invention was made first, was thereafter described in the sole applicants patent, and then the joint application was filed. Applicants have not made such a showing.

Applicants state that Kabalnov does not have the legal status as "another" given that "Kabalnov is the sole inventor of the cited patent and had the information of the cited patent in his head when he applied jointly for a patent in the present application". However, this is not a satisfactory showing as required under MPEP 2163.05, but rather a conclusionary statement without supporting evidence.

In *Land*, cited by applicants, two patents – one to Land and one to Rogers, were applied against claims to Land and Rogers jointly. It is noted that the rejections of record were upheld by



the Court because (1) inventive entities of the patents were different from inventive entity of joint application and (2) Land and Rogers brought their knowledge of their individual work with them when they made the joint invention. There was no indication that the portion of the reference relied on disclose anything Land and Rogers did jointly and neither was there any showing that what they did jointly was done before the filing of the reference patent.

Similarly, in the present situation, there is no showing (declaration) that the joint invention, i.e. the application to Lee, Byers, Kabalnov, Kowalski, Chatterjee, and Prasad was made first or that the portions of Kabalnov relied on disclose anything that Lee, Byers, Kabalnov, Kowalski, Chatterjee, and Prasad did jointly.

In light of the above, Kabalnov remains a relevant reference against the present claims.

With respect to argument (b), in light of the amendment to present claims 17 and 27, applicants argue, and examiner agrees, that neither Kurabayashi et al. nor Takahashi et al. alone, in combination with Zhu or EP 735120, in combination with Yatake, or in combination with Watanabe disclose the present invention. However, in light of the amendment filed 4/25/02, either Kurabayashi et al. or Takahashi et al. is now used in combination with Yatake and either Zhu or EP 735120 and further in view of Watanabe et al. It is the examiner's position that such combination of references does in fact disclose the presently claimed invention.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

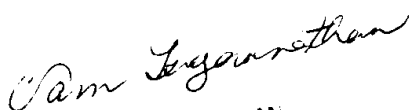
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie Shosho  
August 15, 2002



VASU JAGANNATHAN  
SUPERVISORY PATENT EXAMINER  
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